

AMENDMENTS TO THE SPECIFICATION:

Please add the following new heading before line 1 of the application:

TITLE

Please add the following new headings *before* the paragraph starting "The invention relates to..." on page 1 of the application:

BACKGROUND OF THE INVENTION

(1) Field of the Invention

Please delete the paragraph "Description of the prior art" on page 1 of the application.

Please add the following new heading *before* the paragraph starting "Photocatalysis is an effect..." on page 1 of the application:

(2) Background Art

Please delete the heading starting "Disadvantages of the prior art..." on page 3 of the application.

Please add the following new paragraphs *after* the paragraph starting "This object is achieved by the features..." on page 3 of the application:

BRIEF SUMMARY OF THE INVENTION

In a first aspect, the present invention provides a process for carrying out photocatalytic reactions. The process comprises the steps of: providing solid photocatalysts; suspending the photocatalysts in a liquid or gaseous reaction medium or applying them to a surface; providing microradiators in particle form which are suitable for adsorbing a supplied electromagnetic radiation and, with a time delay, for emitting light which excites the photocatalysts; charging up the microradiators at an electromagnetic radiation source; transporting the microradiators to the photocatalysts for exciting the photocatalysts; and activating the photocatalysts by means of the energy emitted by the microradiators.

BRIEF DESCRIPTION OF THE DRAWINGS

Figure 1 is a laboratory suspension reactor.

Figure 2 is a laboratory suspension reactor with external circulation of the microradiator (MR).

Figure 3 is a tube reactor with meander ribs and separate external circulation of photocatalyst (PC) and microradiators (MR).

Figure 4 is a tube reactor with photocatalyst-coated honeycomb internals and external activation according.

DETAILED DESCRIPTION OF THE INVENTION

Please delete the heading starting "Transport of energy..." on page 3 of the application.

Please delete the heading "The microradiator MR" on page 6 of the application.

Please delete the heading "Examples of suitable phosphorescent solids" on page 6 of the application.

Please delete the heading starting "Prevention of abrasion on the MR..." on page 8 of the application.

Please delete the heading "Separation of photocatalyst PC and microradiators MR" on page 8 of the application.

Please delete the heading "Suitability of the solutions for media and reactions" on page 10 of the application.

Please add the following new abstract on a separate sheet following the claim pages.

ABSTRACT OF THE DISCLOSURE

The invention relates to a reactor for carrying out photocatalysed reactions in liquid or gaseous reaction media, consisting of a reactor vessel with a solid photocatalyst (PC), feed lines and take-off lines, mixing means, and a means of supplying electromagnetic radiation, containing microradiators which absorb the electromagnetic radiation and, with a time delay, emit light which excites the photocatalyst, and also to a process for carrying out photocatalytic reactions, in which solid PC are suspended in the liquid or gaseous reaction medium and are

activated by means of microradiators which are charged up at an electromagnetic radiation source and which emit this energy with a time delay.